



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,576	11/17/2003	Gary Dean Sasser	15436.249.42.2	4722
22913	7590	03/31/2006		
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			EXAMINER STEIN, JAMES D	
			ART UNIT 2874	PAPER NUMBER
DATE MAILED: 03/31/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/715,576	SASSER ET AL.	
	Examiner	Art Unit	
	James D. Stein	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) 11-17 is/are allowed.
 6) Claim(s) 1-6,8-10 and 18-25 is/are rejected.
 7) Claim(s) 7 and 26-28 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 17 November 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>0704</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Drawings

Nine (9) sheets of drawings filed 11/17/03 have been accepted by the Examiner.

Specification

Applicant's cooperation is requested in correcting any errors in the specification of which applicant may become aware.

Information Disclosure Statement

The documents submitted in the IDS filed 07/09/04 have been considered by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 8-9 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by [USPAT 6,692,159] to Chiu et al. ("Chiu").

With regard to claims 1, 2, 5, 18 and 20, at least figs. 17A- 18B show an integrated optoelectronic module array comprising: a component structure 700 including a plurality of optoelectronic sub-modules (transmitter, receiver, see abstract) being integrally formed such that each sub-module shares at least one wall portion (figs. 18A and B) with an adjacent

optoelectronic sub-module; and a latching mechanism 1102 (figs. 13 and 14) that enables the component structure to be selectively secured at least partially within an outer cage 1100 (see entire document), which is affixed to a host board 1704. It is noted that each transceiver module 700 is itself integrally formed, having a transmitter port and receiver port separated by a shared wall portion (figs. 18A and B). It is also noted that the transmitting and receiving portions of the transceiver of Chui each comprise individual optoelectronic sub-modules, as claimed. The language of claims 1 and 18 does not require the optical transceiver sub-modules to be integrally formed together, but rather formed such that they are *individually integral*. The language of claim 11 more accurately defines the present invention, wherein the plurality of transceiver sub-modules are integrated together as one unit.

With regard to claim 3, in addition to the rejection of claim 1 previously discussed above, the optical device is taught to be an optical transceiver (see entire document), which involves wavelength division multiplexing, a type of optical switching.

With regard to claim 4, in addition to the rejection of claim 2 previously discussed above, figs. 6C and 6D of Chiu show an optical interface portion 103 extending from a first open end of the outer cage 400 and a plurality of printed circuit board portions 250 extending from a second open end of the outer cage 400. It is noted that because there are at least two modules 100, there are at least two circuit board portions 250 in the array.

With regard to claims 8 and 19, in addition to the rejections of claims 1 and 18 previously discussed above, the cage 1100 will inherently provide EMI shielding to the plurality of sub-modules, as it encloses said modules.

With regard to claim 9, in addition to the rejection of claim 1 previously discussed above, fig. 17D of Chiu shows a housing 1702 that contains a portion of the optoelectronic modules 700.

Claims 1-3, and 8 rejected under 35 U.S.C. 102(e) as being anticipated by [USPAT 6,533,470] to Ahrens, which discloses a related optical transceiver device.

With regard to claims 1 and 2, at least fig. 1 of Ahrens shows an integrated optoelectronic module array comprising: a component structure 50 including a plurality of optoelectronic sub-modules 53 being integrally formed such that each sub-module shares at least one wall portion with an adjacent optoelectronic sub-module; and a latching mechanism 145 that enables the component structure 50 to be selectively secured at least partially within an outer cage 100, which is affixed to a host board 30. It is noted that each transceiver module 50 is itself integrally formed, having a transmitter port and receiver port separated by a shared wall portion (see col. 4 line 8 – col. 6 line 4).

With regard to claim 3, in addition to the rejection of claim 1 over Ahrens previously discussed above, the optical device 50 is taught to be an optical transceiver (see entire document), which involves wavelength division multiplexing, a type of optical switching (also see at least col. 1 lines 11-25).

With regard to claim 8, in addition to the rejection of claim 1 over Ahrens previously discussed above, the cage 100 will inherently provide EMI shielding to the plurality of sub-modules, as it encloses said modules 53.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu. At least figs. 18A-C show the sub-modules spaced relatively close together. It would have been obvious at the time of the invention to one of ordinary skill in the art to minimize spacing between the sub-modules in order to make the device as small as possible.

Claims 6 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chui as applied to claim 18 above, and further in view of Ahrens.

With regard to claims 6 and 21, in addition to the rejection of claims 4 and 18 previously discussed above, the claimed invention has been disclosed and previously discussed above except for a connector receptacle on the host board. As discussed in the rejection of claim 4 above, Chiu teaches a card edge connector 250, but does not show a receptacle. Apart from a receptacle attached to the host board for receiving said connector 250 being extremely well known and commonly practiced in the art, fig. 1 of Ahrens shows a receptacle 40 mounted to a host board 30 for receiving a card-edge connector 58. In fact, such a receptacle would be required in order to communicate signals to and from the host board. Therefore, it would have been obvious at the time of the invention to an ordinarily skilled artisan to include such a

receptacle in order to allow signals to be communicated to and from the host board and the transceiver modules.

With regard to claim 22, in addition to the rejection of claim 21 previously discussed above, the claimed invention has been disclosed and previously discussed except for the component structure to include four transceiver sub-modules. Chiu discloses two transceiver sub-modules 700. However, it would have been obvious at the time of the invention to one of ordinary skill in the art to include many transceiver modules in order to accommodate many optical communication channels.

Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu-Ahrens as applied to claim 22 above, and further in view of [USPAT 6,863,446] to Ngo, which discloses a release sleeve for an optical connector. Both Chui and Ahrens disclose a plurality of optical fiber connectors. Therefore, the claimed invention has been disclosed and previously discussed except for the optical fiber connectors to include a release sleeve that is slidably engaged with the connector. Fig. 1 of Ngo shows an optical fiber connector "C" including a release sleeve C14 that is slidably engaged with connector "C" (see at least col. 3 line 23 – col. 4 line 21). Ngo teaches that this arrangement allows the connector "C" to be removed easily from port 10. Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art to include such a release sleeve in order to allow the plurality of fiber optic connectors to be removed easily from the ports. It is noted that both Chui and Ahrens disclose LC connectors, which are conventional optical connectors known in the art that include latches.

Allowable Subject Matter

Claims 11-17 are allowed.

Claims 7 and 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to independent claim 11 and dependent claim 7, none of the cited prior art discloses or suggests the integrated optical module array previously claimed, wherein a plurality of transceiver sub-modules are integrally formed such that each optical transceiver sub-module shares at least one wall portion with an adjacent optical transceiver sub-module. This limitation requires that the plurality of transceiver sub-modules are integral -- or formed from a *single, monolithic module -- and are not modular themselves*. In other words, the transceiver array makes up one continuous unit. All of the related prior art teaches that the transceiver modules are discrete, and therefore separate from adjacent transceiver modules. By applying a latch mechanism to said integral module, the present invention allows the entire transceiver array to be swapped into and out of the cage/host-board arrangement. It would not have been obvious to modify the prior art such that the transceiver sub-modules within the array were integral, because it does not appear to provide any advantages over the prior art. However, applicant has discovered that this arrangement minimizes the space required in positioning transceiver arrays within an optical device.

With regard to claims 26-28, the release sleeve of Ngo does have a body portion defining a curved inner cam surface. The cam surface of the present application converts the sliding

motion into a force that engages the latch of the fiber optic connector, thereby releasing said connector.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. [USPAT 6,789,958] to Ahrens et al., and [USPUB 2004/0062486] to Tanaka et al, which disclose related optical devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James D. Stein
Patent Examiner, AU 2874



SUNG PAK
PRIMARY EXAMINER